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A new *Sophia*

BY T. D. A. COCKERELL

Sophia andrenarum

Allied to *S. halictorum* and *S. canescens* (*pinnata*), with which it has been confused; greener than *halictorum*, and more erect, with the lateral stems more ascending, not purple at base: flowering stem glabrous, with a very few gland-hairs: flowers yellow, conspicuous, though the color is mostly in the stamens, the petals being like those of *halictorum*, but a little larger and yellower, and as long as the sepals: upper stem-leaves once pinnatifid, with very long linear divisions: green pods about 12 mm. long, on pedicels about 10.5 mm., both pods and pedicels being distinctly longer than in *halictorum*.

From *S. canescens* or *pinnata* it differs by the bushy habit, with lateral stems, and the character of the upper cauline leaves.

Var. *osmiarum* *

Foliage a little coarser, segments of leaves larger, segments of uppermost leaves broader: flowering stems purplish, white-hairy, without gland-hairs (a character of *ochroleuca*): flowers as in *andrenarum*: a coarser plant than *andrenarum*, with the central axis more developed. The ultimate divisions of the lower leaves and broad-spatulate.

Habitat.—Mesilla Park, New Mexico, flowering in March and April, both growing in dry ground, with *S. halictorum*; very abundant this year on the campus of the N. M. Agricultural College. There can be no doubt that this is distinct from *S. halictorum*, which differs constantly in its foliage and its inconspicuous flowers. It has not been thought necessary to repeat in the description the numerous characters common to all species of this immediate group.

The following table separates the species of *Sophia* which I have found commonly in New Mexico. I have not seen *S. Cum- ingiana*, reported from New Mexico, but it differs from *halictorum* and *andrenarum* by its larger pods, which are pubescent. In our

* Possibly a hybrid with *S. ochroleuca* (?).

plants the pods are strictly glabrous. Professor E. O. Wooton has an apparently new species, allied to *S. ochroleuca*, which he collected at Pescado Spring, N. M.

Seeds in one row in a cell; petals bright yellow; plant tall; living in the mountains (Sapello Cañon, etc.). *incisa* (Engelm.) Greene.

Seed in two rows of cell; petals pale; plant not so tall; living in the Middle Sonoran zones.

Pods and pedicels ascending; flowers whitish; even the uppermost leaves bipinnatifid; pubescence of stems above dense, of white branched hairs, none glandular; living in irrigated fields and bottom lands.

ochroleuca Wooton.

Pods ascending from strongly divergent pedicels; flowers yellow or yellowish; living in dry ground.

Flowers inconspicuous; plant spreading from the base; upper stems densely glandular-pubescent; uppermost leaves more or less bipinnatifid, but quite different from those of *ochroleuca*.

halictorum Cockerell.

Flowers conspicuous, yellow; plant much less spreading; upper leaves once pinnatifid, with long linear divisions; pedicels longer.

Upper stems glabrous, with a very few gland-hairs.

andrenarum Cockerell.

Upper stems white-hairy, the hairs branched.

andrenarum osmiarum Cockerell.

On March 18, 1900, at Mesilla Park, I saw *Sophia ochroleuca* freely visited by the honey bee (*ligustica* variety) and by *Halictus amicus* Cockerell.

N. M. AGR. EXP. STA.